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Nutritional Status of Children in a Rural Food Environment, Haryana: A Paradox for the Policy Action

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Abstract : The concurrent increasing prevalence of underweight and overweight/obesity among children with changing lifestyle and the rapid transitioning society has necessitated the need for a unifying/multi-level approach to understand the determinants of the problem. The present community-based cross-sectional research study was conducted to assess the associations between lifestyle behavior and food environment of the child at household, neighborhood, and school with the BMI of children (6-12 year old) (n=612) residing in three rural clusters of Palwal district, Haryana. The study used innovative and robust methods for assessing the lifestyle and various components of food environment in the study. The three rural clusters selected for the study were located at three different locations according to their access to highways in the SOMAARTH surveillance site. These clusters were significantly different from each other in terms of their socio-demographic and socio-economic profile, living conditions, environmental hygiene, health seeking behavior and retail density. Despite of being different, the quality of living conditions and environmental hygiene was poor across three clusters. The children had higher intakes of dietary energy and sugars; one-fifth share of the energy being derived from unhealthy foods, engagement in high levels of physical activity and significantly different food environment at home, neighborhood and school level. However, despite having a high energy intake, 22.5% of the recruited children were thin/severe thin, and 3% were overweight/obese as per their BMI-for-age categories. The analysis was done using multi-variate logistic regression at three-tier hierarchy including individual, household and community level. The factors significantly explained the variability in governing the risk of getting thin/severe thin among children in rural area (p-value: 0.0001; Adjusted R2: 0.156) included age (>10years) (OR: 2.1; 95% CI: 1.0-4.4), the interaction between minority category and poor SES of the household (OR: 4.4; 95% CI: 1.6-12.1), availability of sweets (OR: 0.9; 95% CI: 0.8-0.99) and cereals (OR: 0.9; 95% CI: 0.8-1.0) in the household and poor street condition (proxy indicator of the hygiene and cleanliness in the neighborhood) (OR: 0.3; 95% CI: 0.1-1.1). The homogeneity of other factors at neighborhood and school level food environment diluted the heterogeneity in the lifestyles and home environment of the recruited children and their households. However, it is evident that when various individual factors interplay at multiple levels amplifies the risk of undernutrition in a rural community. Conclusion: These rural areas in Haryana are undergoing developmental, economic and societal transition. In correspondence, no improvements in the nutritional status of children have happened. Easy access to the unhealthy foods has become a paradox.

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